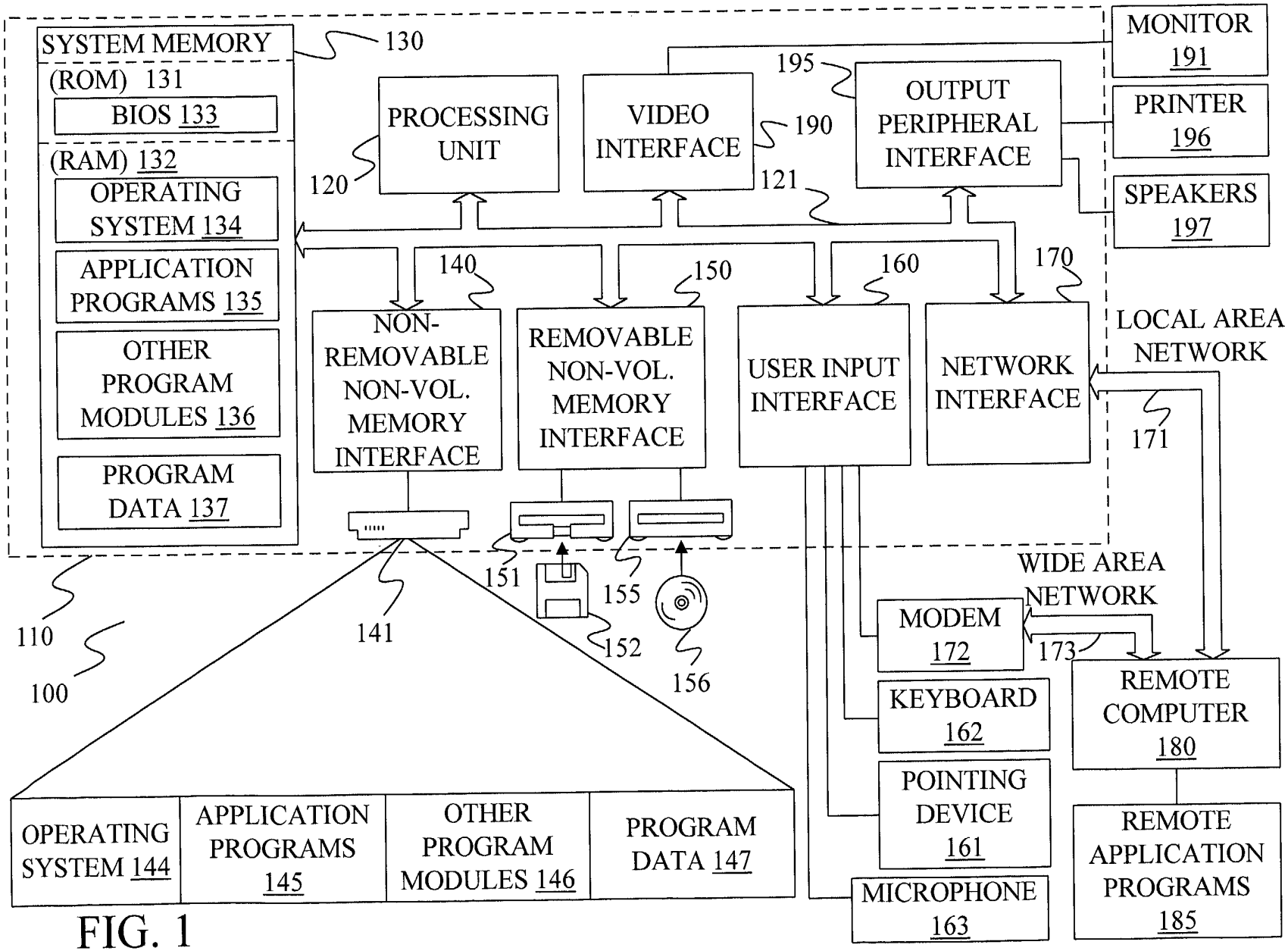
SYSTEM MEMORY
130
(ROM) 131
BIOS 133
(RAM) 132
OPERATING SYSTEM 134
APPLICATION PROGRAMS 135
OTHER PROGRAM MODULES 136
PROGRAM DATA 137
PROCESSING UNIT
120
VIDEO INTERFACE
190
195
OUTPUT PERIPHERAL INTERFACE
121
MONITOR 191
PRINTER 196
SPEAKERS 197
140
150
160
170
NON-REMOVABLE NON-VOL. MEMORY INTERFACE
REMOVABLE NON-VOL. MEMORY INTERFACE
USER INPUT INTERFACE
NETWORK INTERFACE
LOCAL AREA NETWORK
171
110
100
141
151
155
152
156
WIDE AREA NETWORK
MODEM 172
173
KEYBOARD 162
POINTING DEVICE 161
MICROPHONE 163
REMOTE COMPUTER 180
REMOTE APPLICATION PROGRAMS 185
OPERATING SYSTEM 144
APPLICATION PROGRAMS 145
OTHER PROGRAM MODULES 146
PROGRAM DATA 147

FIG. 1

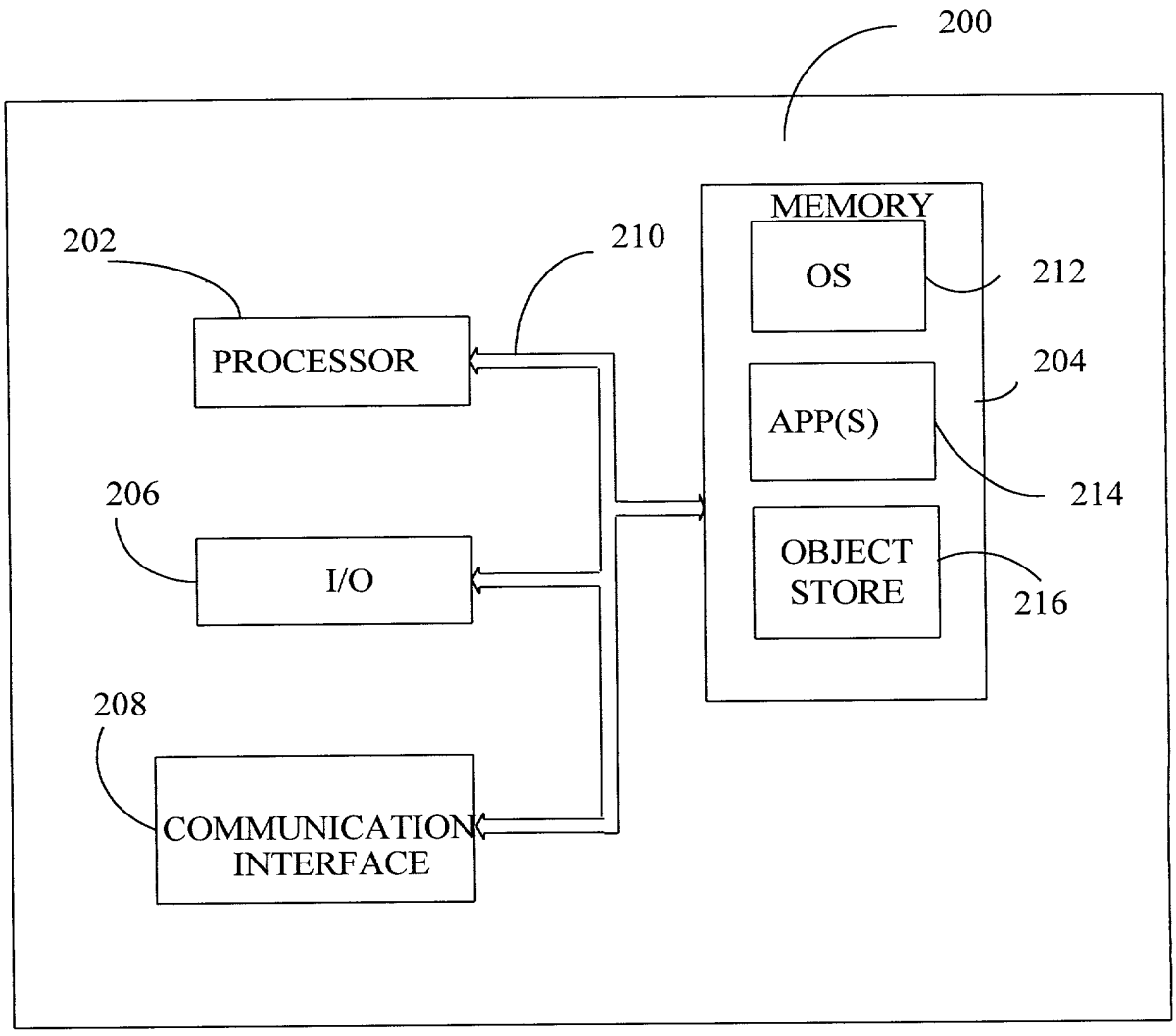
200
MEMORY
202
210
OS
212
PROCESSOR
204
APP(S)
214
206
I/O
OBJECT STORE
216
208
COMMUNICATION INTERFACE

FIG. 2

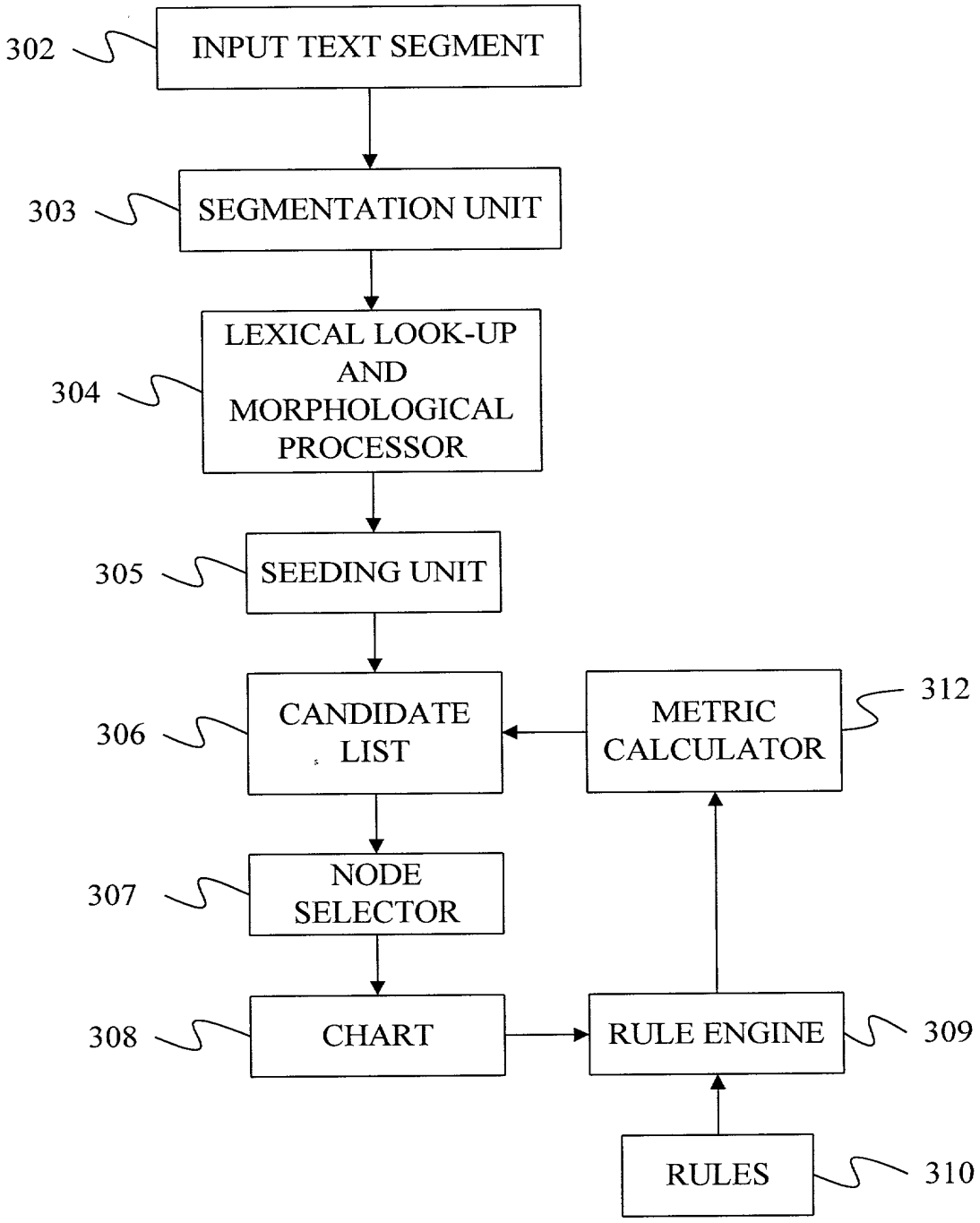
302
INPUT TEXT SEGMENT
303
SEGMENTATION UNIT
304
LEXICAL LOOK-UP AND MORPHOLOGICAL PROCESSOR
305
SEEDING UNIT
306
CANDIDATE LIST
312
METRIC CALCULATOR
307
NODE SELECTOR
308
CHART
RULE ENGINE
309
RULES
310

FIG. 3

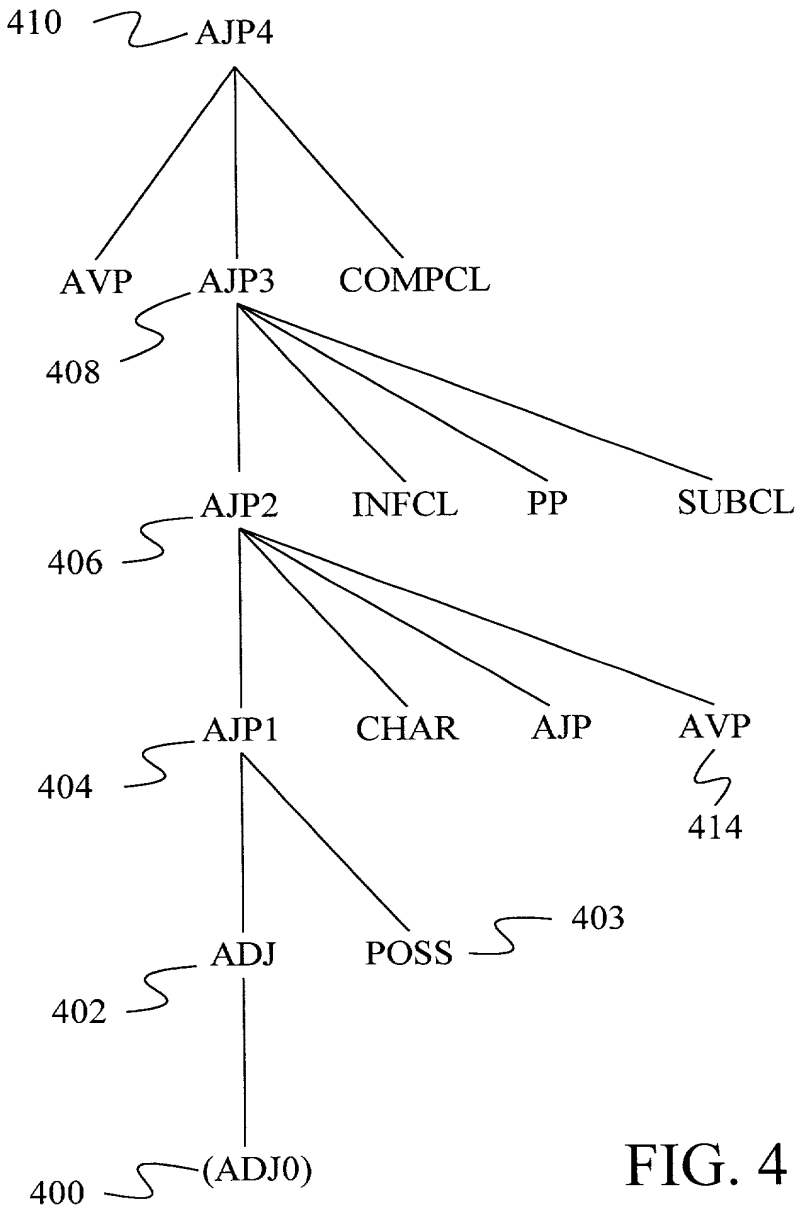
410
AJP4
AVP
AJP3
COMPCL
408
AJP2
INFCL
PP
SUBCL
406
AJP1
CHAR
AJP
AVP
404
414
403
ADJ
POSS
402
400
(ADJ0)

FIG. 4

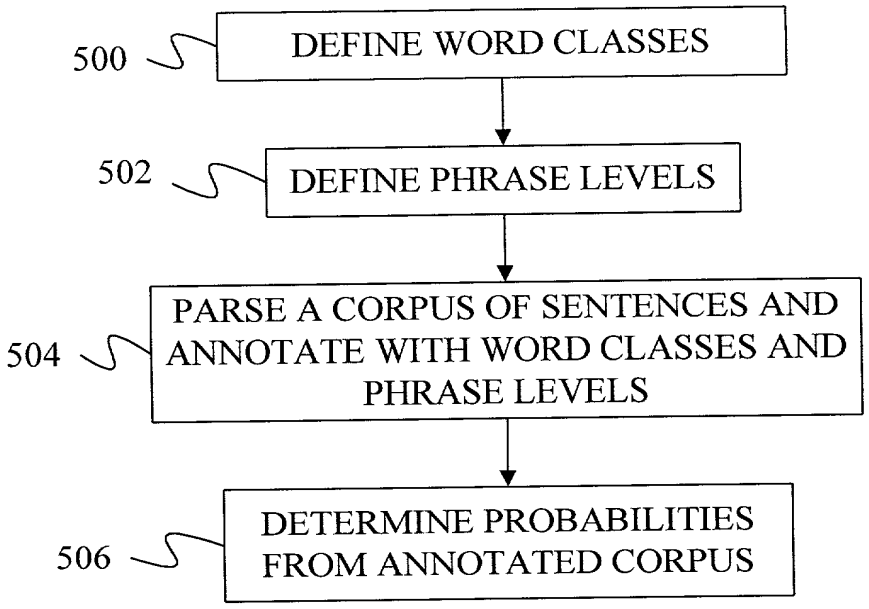
500
DEFINE WORD CLASSES
502
DEFINE PHRASE LEVELS
504
PARSE A CORPUS OF SENTENCES AND ANNOTATE WITH WORD CLASSES AND PHRASE LEVELS
506
DETERMINE PROBABILITIES FROM ANNOTATED CORPUS

FIG. 5

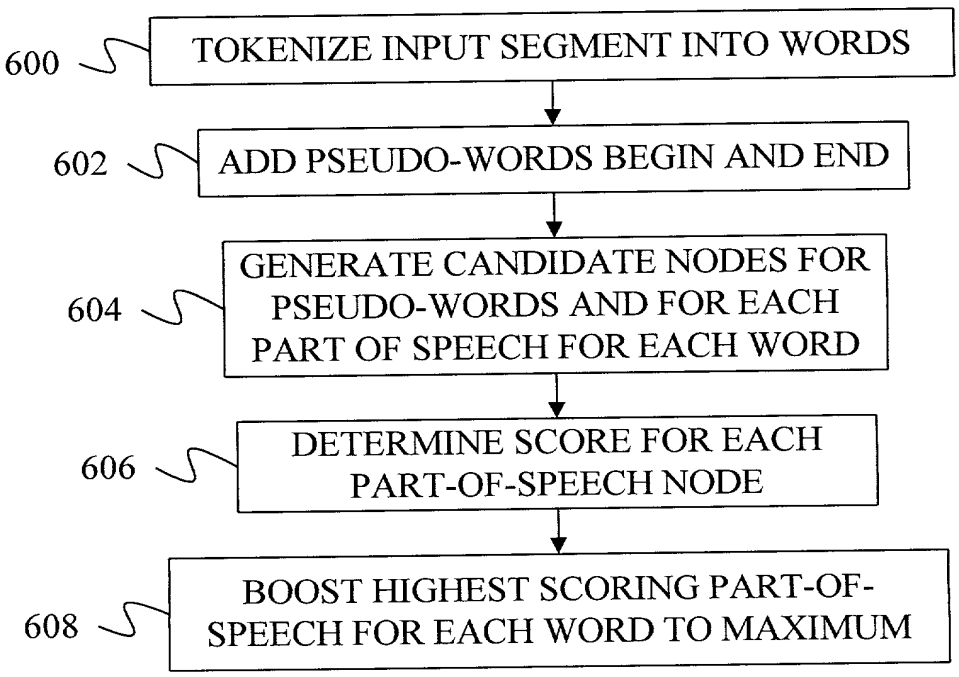
600
TOKENIZE INPUT SEGMENT INTO WORDS
602
ADD PSEUDO-WORDS BEGIN AND END
604
GENERATE CANDIDATE NODES FOR PSEUDO-WORDS AND FOR EACH PART OF SPEECH FOR EACH WORD
606
DETERMINE SCORE FOR EACH PART-OF-SPEECH NODE
608
BOOST HIGHEST SCORING PART-OF-SPEECH FOR EACH WORD TO MAXIMUM

FIG. 6

Promoted node	Prior Art Goodness Measure	Node Contents
CHAR1	1.00000	"?"
NOUN1	1.00000	"Mary"
VERB1	1.00000	"kissed"
VERB2	1.00000	"say"
NOUN2	1.00000	"John"
VERB3	1.00000	"did"
PRON1	1.00000	"Who"
BEGIN1	1.00000	""
NP1	.99770	"Who"
VP1	.99770	"did"
NP2	.99770	"John"
VP2	.99770	"say"
VP3	.99770	"kissed"
NP3	.99770	"Mary"
VP4	.04498	"kissed" "Mary"
PTPRTCL1	.04732	"kissed Mary"
VP5	.01294	"did" "John"
VP6	.01510	"Who" "did John"
NREL1	.01419	"Who did John"
COMPCL1	.00923	"kissed Mary"
COMPCL2	.00692	"did John"
VP7	.00318	"Who" "did"
VP8	.00178	"John" "say"
VP9	.00093	"say" "kissed Mary"
VP10	.03837	"John" "say kissed Mary"
VP11	.00603	"did" "John say kissed Mary"
COMPCL3	.00354	"did John say kissed Mary"
COMPCL4	.00298	"John say kissed Mary"
VP12	.00117	"Who" "did John say kissed Mary"

FIG. 7

Promoted node	SMTI Goodness Measure	Node Contents
CHAR1	1.00000	"?"
NOUN1	1.00000	"Mary"
VERB1	1.00000	"kissed"
VERB2	1.00000	"say"
NOUN2	1.00000	"John"
VERB3	1.00000	"did"
PRON1	1.00000	"Who"
BEGIN1	1.00000	""
NP1	5.7829	"Who"
VP1	1.7016	"did"
NP2	3.6838	"John"
VP2	2.0978	"say"
VP3	0.0456	"kissed"
NP3	2.5503	"Mary"
VP4	2.8841	"did" "John"
WHCL1	2.4027	"Who" "did John"
VP5	1.5142	"kissed Mary"
COMPCL1	165.77	"kissed Mary"
VP6	14.571	"say" "kissed Mary"
VP7	36.7850	"John" "say kissed Mary"
INFCL1	5.8604	"John" "say kissed Mary"
VP8	5.2955	"did" "John say kissed Mary"
VP9	173.593	"Who" "did John say kissed Mary"
QUES1	22080	"Who did John say kissed Mary" ?

FIG. 8